

No. XVII.—REPORT ON THE BRACHIOPODA OBTAINED FROM THE
INDIAN OCEAN BY THE SEALARK EXPEDITION, 1905.

By WILLIAM HEALEY DALL, *A.M., Sc.D., Curator Div. Moll. U.S. Nat. Mus.*

(Communicated by Prof. J. STANLEY GARDINER, *M.A., F.R.S., F.L.S.*)

(Plate 26.)

Read 2nd December, 1909.

THE Brachiopods transmitted to me for examination by Mr. J. Stanley Gardiner were all obtained from one haul of the dredge on the descending southern slope of the sea-bottom south of the Saya de Malha Banks. The haul, which was made over bottom beginning at 153 and ending at 123 fathoms, was numbered "C 1."

The collection comprises one badly crushed *Liothyrina*, of which only the posterior portions remain, two specimens of what appears to be a new species of *Kraussina*, and seven specimens of a new *Hemithyris*.

Brachiopods are usually very free from adherent growths when living, but these specimens were badly encrusted with patches of *Serpulæ*, *Polyzoa*, and sessile *Foraminifera*.

1. *Liothyrina* sp. indet. (Plate 26. figs. 1, 2.)

This species, as far as could be judged from the imperfect remains, was of an inflated form recalling that of *L. bartletti* of the Antilles. The surface was smooth except for lines of growth, was of a pure white colour, and moderately polished. The lower valve (represented by a portion bearing part of the broken apophyses) was destitute of any medial septum or props to the hinge processes. By assembling camera-lucida sketches of the fragments I have made a diagram (fig. 1) of the apophyses which may assist in recognizing the species when well-preserved specimens are obtained. The beak of the lower valve is provided with a small cardinal process composed of a projecting callous deposit, like half a rosette, to which the posterior ends of the muscular fibres which separate the valves ("divaricators" of Hancock) are attached. The general form of the loop resembles that of *L. sphenoides*, Philippi. The soft parts were badly mutilated, but it was possible to discern a small mesial coil of the brachia.

A feature rather unusual in this group was that the ovaries, which were of a creamy-white colour, seemed to be entirely enclosed in a space of which the boundaries followed the outline of the muscular attachments, and at but a short distance outward from the latter; while in most of the known species, in fact in almost if not quite all of them, the ovaries and the genital sinuses are produced in narrow lines or in a branched manner nearly to the anterior margins of the valves.

Blochmann has shown that the spicula of the mantle in Brachiopods are specifically

characteristic. In the present species they resemble those of *Liothyris vitrea* as figured by Blochmann *, but are somewhat more densely branched (fig. 2); their main characteristic is the rounded excavation of the space at the junction of the minor with the major branches; the convexity of this arcuation being always proximal or toward the main focus or centre of the spicule. The specimen figured was taken from the posterior part of the mantle of the dorsal valve.

2. *Kraussina gardineri*, sp. n. (Plate 26. figs. 3-6.)

Shell rude and solid, greyish white, much the same shape as *Muhlfeldtia truncata* when young, while the shell has a width of 13 and a height of 12 mm. As it grows, however, the outline elongates proportionally more than it widens, and an adult measures 24.5 mm. from beak to anterior margin and 23 mm. at right angles to this line at the broadest part of the shell. The outline is then roughly rhombic. The hæmal valve is slightly excavated mesially by a shallow depression, the pedicel valve having a corresponding convexity, but the flexuosity is hardly noticeable. The pedicel valve is very slightly more convex than the other, the total diameter of the adult being about half its length; in the young the hæmal valve is proportionately flatter.

As in most species of the genus, the beak is short and wide, the pedicel short, the foramen wide and anteriorly incomplete, the margins usually more or less crenate or defective; on each side of the foramen is a wide flattened area of somewhat irregular shape, but always wider than long.

The sculpture of the valves is formed by coarse, rounded, radial ridges, strongest mesially, with subequal roundly excavated interspaces; these ridges are mostly continuous from the beaks, and when they increase, toward the anterior part of the valve, it is more commonly by bifurcation than by intercalation. Of these ridges there are about forty in the adult, the most lateral being finer and closer-set than the others.

The internal sculpture of the valves, which is peculiar and rather characteristic in this genus, and the depressed muscular scars, are shown by the figures better than could be done by a verbal description.

From *Kraussina rubra* and *capensis* this species differs in wanting the characteristic red colour, in having a different sculpture from the former, and different apophyses from the latter. It is not necessary to compare this species with *K. pisum* and the other small species. The sculpture of the interior of the valves, as illustrated by the figures, is quite different from that of any of the other species.

The species is named in honour of the leader of the expedition, Mr. J. Stanley Gardiner.

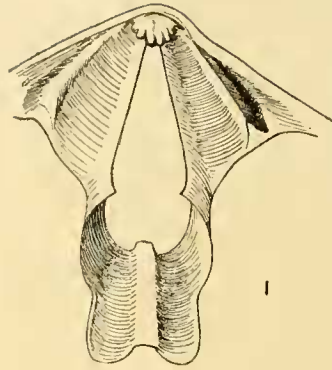
3. *Hemithyris sladeni*, sp. n. (Plate 26. figs. 7-12.)

Shell small, inflated, mesially flexuous, of a translucent waxen white, more or less suffused in some specimens with very pale brown; general form rounded-triangular, the excavated flexure being in the pedicel valve, but the hæmal valve is so inflated that the

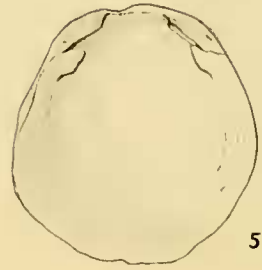
* Zeitschr. für wiss. Zool. xc. (1908) Taf. 37. fig. 10.



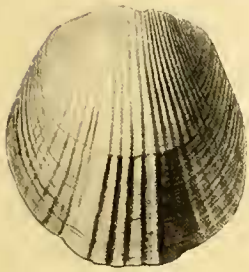
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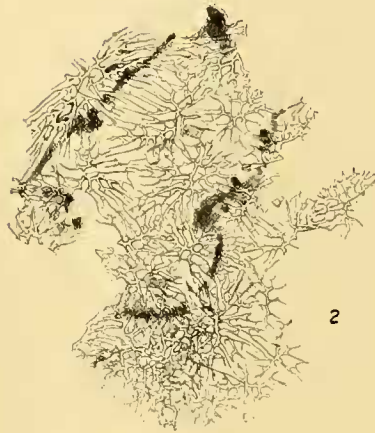
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BRACHIOPODA FROM THE INDIAN OCEAN.